

## MECHANICAL SHAKER (THOROUGHNESS) VERIFICATION PROCEDURE #40

June 4, 2000

Equipment Checked: **COARSE & FINE SCREEN SHAKERS**  
**(AASHTO T 27, ASTM C 136, AASHTO T 30)**

Purpose: This method provides instructions for checking the thoroughness of sieving of mechanical shakers.

Inspection Equipment Required:

1. Set of 8" sieves 1 1/2" to No.200
2. Balance, readable to 0. 1 g., 20,000 g. capacity

Tolerance:

The tolerance for thoroughness of sieving can be found in the test methods listed above.

Procedure:

1. Place an appropriate size sample into the shaker being checked. Record total weight of Sample (A). Set the timer for required time (approximately 10-15 min.) to meet specifications (not more than 0.5% by weight of the total sample passes a given sieve in 1 minute).
2. Remove a screen from the shaker if it is a Gilson. Remove the nest of sieves if it is a Gyratory or Maryann type of shaker.
3. For Gilsons, place the material from the screen into a 12" diameter sieve, (do not overload ) with the same opening size and strike the side of the sieve sharply and with an upward motion against the heel of the other hand at the rate of about 150 times per minute, turn the sieve about one sixth of a revolution at intervals of about 25 strokes. Weigh and record the weight of material that has passed(B).
4. For Maryanns or Gyratorys, carefully remove a sieve from the nest and hand shake that sieve in the same manner as explained above.
5. Calculate thoroughness on the Calibration Record Form to determine if the 15 minute trial is adequate.
6. In determining the sufficiency of sieving for sizes larger than the #4 sieve, limit the material on the sieve to a single layer of particles.
7. If the size of the mounted testing sieves makes the described sieving motion impractical use an 8" sieve to verify sufficiency of sieving.

## EQUIPMENT CALIBRATION RECORD

### Calibration Procedure No. 40 Mechanical Shaker -Thoroughness (AASHTO T 27)

<b>Date:</b>	<b>Calibrated by:</b>
<b>Previous Calibration Date:</b>	<b>Next Due:</b>
<b>Frequency:</b> 12 months	
<b>Action Recommended:</b> Repair _____ Replace _____ None _____ Other _____	
<b>Calibration Equipment</b>	<b>Serial Number</b>
Mechanical shaker	
<b>Minutes Shaken:</b>	

Sieve Serial No.	Sieve Size	(B) Weight Passing, Hand shaking	(A) Total Wt.	AASHTO 0.5% Max. (B/A) 100